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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,505	02/11/2004	Robert William Dobbs	200209625-1	5267

7590 11/12/2009
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

AMAYA, CARLOS DAVID

ART UNIT	PAPER NUMBER
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2836

MAIL DATE	DELIVERY MODE
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11/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/777,505

Applicant(s)

DOBBS ET AL.

Examiner

CARLOS AMAYA

Art Unit

2836

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Appeal Brief filed on 8/10/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-8 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Appeal Brief filed on 8/10/2009, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Jared J. Fureman/

Supervisory Patent Examiner, Art Unit 2836.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-8, 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coglitore (US 2004/0228087) in view of Slade et al. (US 5,861,684).

With respect to claims 1, 13-14 Coglitore discloses a power distribution system comprising: one or more loads, each load operable to be mounted in a rack location (computing units 8 are housed in rack, see figures 1A, 1B, 7A, 7B and 9 for example); a plurality of power sources (power supply modules 6) and operable to be mounted in a rack location not having a load (Coglitore discloses on page 9 paragraph (0078) and paragraph (0081), that power supplies modules 6 and computing units 8 (loads) of figures 1A and 1B are housed in the same rack or that the power supplies modules 6 and computing units 8 (loads) of figures 7A, 7B and figure 9 are housed in separate racks. In each case, the power supplies are mounted in a rack location without a load, as described by Coglitore); and an interconnect arrangement including a plurality of interconnects, the interconnects directly connecting each load to each of the sources in parallel such that each load is fully powered and if any one source fails, each load remains fully powered (figures 7-9 show interconnection/cables for directly connecting loads 8 to power supplies 6 in parallel).

Coglitore, however, does not expressly disclose each power source having a capacity less than each load.

Slade discloses a computer system requiring 3000 watts of power from power sources (bulk supplies A-D) each supplying 1500 watts of power (see col. 3 lines 13-39; col. 1 lines 36-430). Thus each of the power sources has a capacity less than each load.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Coglitore and make each power source have a capacity less than each load, for the purpose of providing a fault tolerant system that provides redundancy, since the system will require more than one source to power a load. Note: parallel system as in Coglitore and Slade take advantage of plural supplies powering plural loads, thus if one power fails the others can provide power to a load. Maintaining 3000 watts from 1500 power supplies as disclosed by Slade; for example. Furthermore, Slade col. 2 lines 15-48, discloses providing fault tolerant systems configured to varying levels of operational availability or power source redundancy.

With respect to claim 2 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein all of the sources are DC sources. The power supplies disclosed by Coglitore are DC supplies.

With respect to claim 3 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein all of the sources are AC sources. Slade discloses AC PDU 7 and 8 acting as AC sources for Bulk supplies A-D.

With respect to claim 6 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein one or more loads, power sources and interconnect arrangement comprises a power distribution subsystem, wherein the one or more load includes a load (Coglitore loads 8), wherein the plurality of sources includes first, second, and third sources (Slade discloses Bulk power supplies A-D), and wherein the interconnect arrangement includes interconnects that connect the load to each of the first, second, and third sources (Coglitore and Slade disclose interconnect

arrangements for connecting the supplies to the load). Slade discloses a 3000 watt load being power by plural 1500 Watt supply.

However, Coglitore and Slade do not disclose expressly that the load is a 4X watts load and that the first, second, and third sources are 2X watt sources. It would have been obvious from the teachings of Slade to use more than one power source to power a load, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 7 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein the at least one load, power source and interconnect arrangement comprises a power distribution subsystem, however, do not disclose expressly that the at least one load includes a 5X watt load, and the plurality of sources includes first, second, third, fourth, fifth, and sixth 2X watt sources, and wherein the interconnect arrangement includes interconnects that connect the 5X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources. Slade discloses Bulk supplies A, B, C, D and Batteries A, B, C, D that power two power rails A 2 and B 3. With a total power in the rail of 3000 Watts with 2N configuration, thus one of ordinary skill in the art would have connected the 5X watt load to the Coglitore system and still have enough power to supply the load. Power rails interconnect each of the sources with the load; the loads in Slade invention are "CRUs" of a computer system.

With respect to claim 8 Coglitore in view of Slade disclose the power distribution system of claim 1, however, do not expressly disclose that the at least one load includes

a 10X watt load, wherein the plurality of sources includes first, second, third, fourth, fifth, and sixth 2X watt sources, and wherein the interconnect arrangement includes interconnects that connect the 10X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources. Slade discloses Bulk supplies A, B, C, D and Batteries A, B, C, D that power two power rails A 2 and B 3. With a total power in one of the rails being 3000 Watts with 2N configuration, thus one of ordinary skill in the art would have connected the 10X watt load to the Coglitore system and also change the bus bar switch 15 of figure 1 to connect the Bulk supplies B and D to Rail A 2 so that the rail can now have 6000 Watts. Thus, have enough power to supply the 10X watts load.

The suggestion or motivation for doing so would have been to provide a redundant system with power supplies that are reliable and able to provide power to the loads when one or more power sources are disabled, thus increasing reliability of the redundancy of the system without having to worry about the load being without power.

With respect to claim 12 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein the at least one load includes a load (Coglitore loads 8), wherein the plurality of sources includes first, second, and third sources (Slade discloses Bulk power supplies A-D), and wherein the interconnect arrangement includes interconnects that connect the load to each of the first, second, and third sources, and wherein the interconnect arrangement includes interconnects that connect the load to each of the first, second, and third sources (Coglitore and Slade disclose interconnect arrangements for connecting the supplies to the load).

However, do not expressly disclose that the load is an 8X watts load, and that the first, second, and third sources are 4X watts sources. Slade discloses a 3000 watt load being power by plural 1500 Watt supply.

It would have been obvious from the teachings of Slade to use more than one power source to power a load, namely to have one load and three power sources that each produced half the power consumed by the load, since the load is connected to each of the power supplies when one supply fails the other supplies provide the necessary power to the load; since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The suggestion or motivation for doing so would have been to have power supplies that produces enough power to supply a load when one of the power supplies fails, thus increasing reliability of the redundancy of the system without having to worry about the load being without power.

With respect to claim 15 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein the one or more loads include first and second 5X watt loads, wherein the plurality of sources include first, second, third, fourth, fifth, and sixth 2X watt sources, and wherein the interconnect arrangement includes interconnects that connect the first 5X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources and the second 5X watt load to each of the first, second, third, fourth, fifth, and sixth 2X watt sources, X having a numeric value. Slade discloses Bulk supplies A, B, C, D and Batteries A, B, C, D that power two power rails A 2 and B 3, and a plurality of loads 1-N. The loads are being power/interconnected by the rails. The power sources

have to adjust their power in order to supply each of the loads with a corresponding power (Column 3 lines 5-10).

With respect to claims 16-17 Coglitore in view of Slade disclose the power distribution system of claim 1 wherein the number of sources is three-times the number of loads and six-times the number of loads. Slade discloses power sources 10-13, 18-21 and loads No. 1 through load No. N, thus it would have been obvious to one of ordinary skill in the art to combine the number of sources and loads as desired.

Response to Arguments

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARLOS AMAYA whose telephone number is (571) 272-8941. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared Fureman can be reached on (571) 272-2391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. A./
Examiner, Art Unit 2836

/Jared J. Fureman/
Supervisory Patent Examiner, Art
Unit 2836

11/06/2009